AVIATION

The Oldest American Aeronautical Magazine

SEPTEMBER 22, 1924 Issued Weekly PRICE 10 CENTS

President Coolidge receives elementary flying instruction while waiting for the World Fliers' arrival

VOLUME XVII

NUMBER 12

SPECIAL FEATURE

GENERAL REVIEW OF THE AMERICAN ROUND THE WORLD FLIGHT

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SEPTEMBER 22, 1924

AVIATION

VOL. XVII. NO. 12

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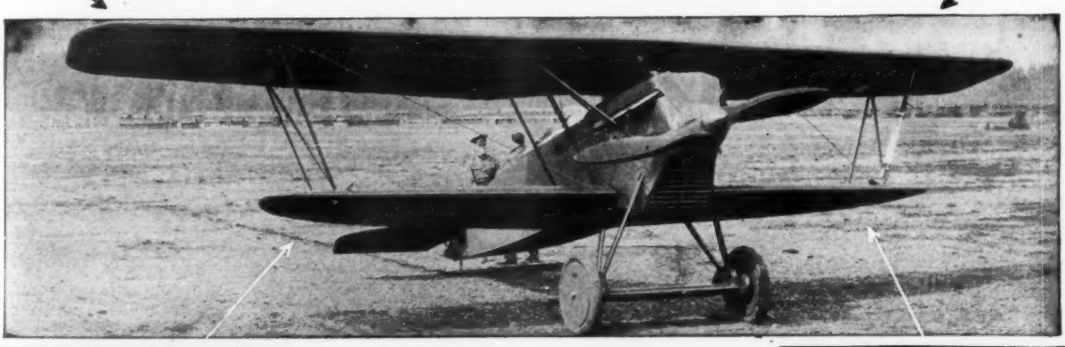
COST

QUALITY



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THESE FOUR CARDINAL VIRTUES
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BOEING PURSUIT

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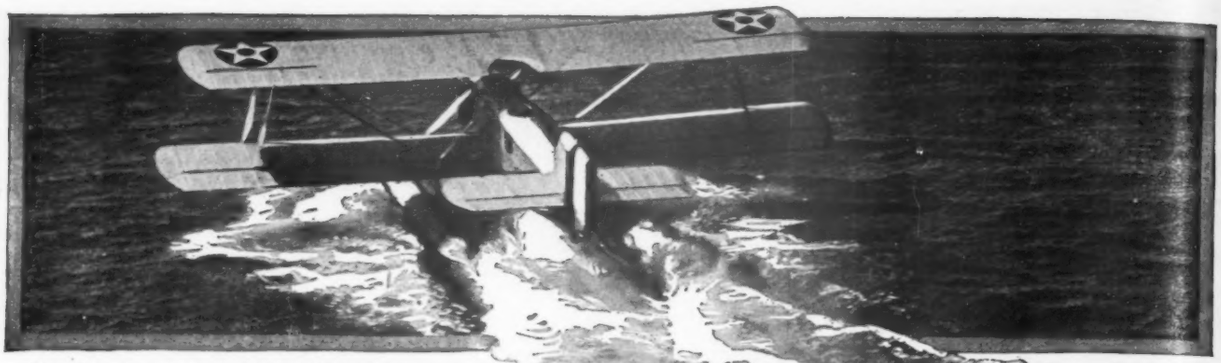
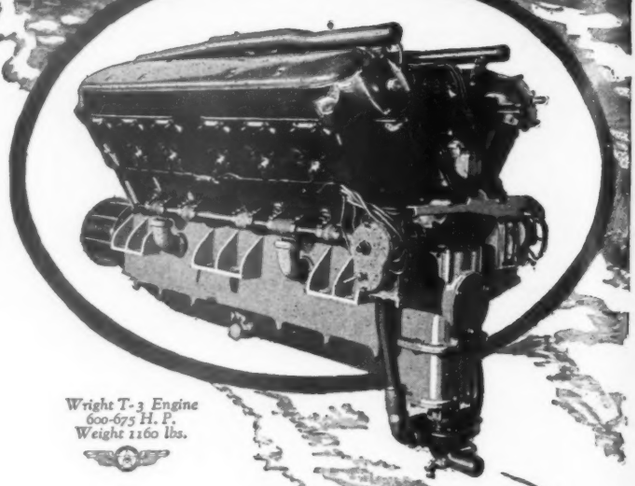
CONTRACTORS TO UNITED STATES GOVERNMENT
GEORGETOWN STATION, SEATTLE, WASH.



U. S. Navy CS-2, a Standard Navy Service job known as a 3-purpose plane (A) long distance scouting, (B) Torpedo plane, (C) bomber

The CS-2 powered with a Wright T-3 engine recently broke five world's records for seaplanes (1) duration in hours, (2) non-stop flight in miles, (3) speed for 500 km. (310.5 mi.), (4) speed for 1000 km. (621.0 mi.), (5) speed for 1500 km. (931.5 mi.).

The Tested, Steady Service of Wright T-3 Engines



Wright T-3 Engine
600-675 H. P.
Weight 1160 lbs.

OVER two years ago the Wright Model "T" Engine passed its experimental tests and is now the only high power aircraft engine in volume production in the United States.

With a record that includes various types of planes and unusual flying conditions, this Engine remains unexcelled for Durability, Low Frontal Resistance, Compactness, coupled with low weight per H. P., making it most useful for not only heavy duty and weight carrying, but for high performance planes as well.

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VOL. XVII SEPTEMBER 22, 1924 No. 12

Future World Flights

ALREADY consideration is being given to another Round the World Flight. The great success of the American pioneer venture will probably lead to other attempts. Before they reach the point of definite announcement it will be well to consider some of the problems that are bound to arise in this connection.

Future military or naval exploits of this nature will bring up international questions that should be given serious consideration before hasty decisions are made. The courtesy extended to our Army pilots by all the countries over which they flew has created reciprocal obligations that may cause embarrassment in the future if other flights are undertaken. Other countries, too, will realize the great advantages to be gained by having their officers fly over foreign territory. Suppose a Chinese, an Austrian or a Turkish flight were planned by military officials. Would the United States feel enthusiastic over opening up its transcontinental air routes to these fliers? For a pioneer venture, there are courtesies that are extended that will not be available when speed is the only new element. A word of caution at this time is proper and may prevent unfortunate consequences.

But assuming that international favors could be secured, another question arises. Should the Navy or the Army promote future flights? The Navy is charged with all over seas operations until military expeditions are essential. The Army is limited to coast defense. The utilization of both military and naval air forces over the sea is an unsettled matter, wide differences of opinion being expressed. The Navy, quite properly, has retired from aerial contests on land. If the Army continues to extend its operations over the seas by any future flights, the differences of opinion as to the functions of the two services are bound to become more acute.

The practical result that can come from the Round the World Flight which has aroused the imagination of the world is the establishing of an international around the world airway and making renewed efforts to bridge any of the gaps that at present are not practicable for flying. If the air route from London to Tokio had a regular service operated by international air lines, there would be an increasing effort made to operate the transoceanic routes a regular part of the route. The recent crossing of the Pacific and Atlantic have given conclusive proof that the Northern routes are unpracticable for commercial uses. They also will put a damper on the enthusiasm and speculation regarding the transpolar route for intercontinental air communication. If, these facts are realized and further efforts are made by this or other countries to establish practical transoceanic routes there will be a result obtained from this great feat that will be as invaluable as it was unexpected.

By all means, let there be a complete capitalization of the popular appreciation of this epoch making flight, but let it take the direction of the advancement of commercial aviation rather than for military development. Just at the time when the ZR3 is expected to make the Atlantic voyage, it is opportune to consider the possibilities of making a start of an around the world airway utilizing both airplanes and airships.

Government Accepts McCook Field Site

PRESIDENT COOLIDGE has formally accepted the gift of a new site for McCook Field from the Dayton Air Service Committee which raised $400,000 for this purpose. In the four thousand acres is the old farm where the Wright Brothers did their early experimental work.

Mr. F. B. Patterson, President of the National Aeronautic Association, on his return from Washington after presenting the site is quoted as saying:

"I have never performed a more grateful task; I have never been assigned a pleasanter duty than that which I have just performed in formally making this splendid gift to the nation on behalf of Dayton."

Mr. Patterson also pointed out that the final acceptance by the Federal authorities of the new flying field means a big impetus to the business of Dayton. It means a large expenditure for permanent building and the employment of a large force of skilled and unskilled labor. This will increase Dayton's population, cause many new homes to be built, and augment the business of the city's retail merchants. It will make possible many increased activities on the part of the experimental station, giving Dayton continuous world-wide publicity and attracting thousands of visitors.

General Patrick in his last Annual Report asked that five million dollars be appropriated before 1926 for the construction of the permanent buildings on the $400,000 site. Dayton however is more ambitious. "Tentative plans, linked with the proposed sale of the fine abandoned air fields will aggregate a sum of $10,000,000 for the purpose of erecting permanent buildings. The expansion made possible by the move will mean an annual payroll of from $2,000,000 to $5,000,000 (McCook Field now has the fourth largest payroll in Dayton). It will give employment to 3,000 to 5,000 skilled workmen."

So that undue importance will not be given to these pleasant formalities it should be remembered that no permanent construction can be undertaken by the Army without the consent of Congress, that there is a Congressional investigating committee at work on the expenditures of the Air Service, that McCook Field will have to justify the expenditure since the War of $20,000,000 with concrete results commensurate with such vast outlay, and finally that the whole scope of the work of the engineering divisions of both Army and Navy will probably be investigated by Congress before any permanent decision is reached. Should the government decide not to spend large sums on the new McCook Field the string attached to the gift which stipulates its use for specific purposes will make Dayton's loss or gain inconsequential.

ROUTE
ROUND THE WORLD FLIGHT
U.S. ARMY AIR SERVICE, 1924
PREPARED IN
OFFICE OF THE CHIEF OF AIR SERVICE
WASHINGTON, D.C.
MARCH, 1924.
FIRST DIVISION
Los Angeles, California
Sacramento, California
Eugene, Oregon
Seattle, Washington
Dutch Harbor
Nazan, Island of Atka
Kiska, Island of Attu
SECOND DIVISION
Attu, Aleutian Archipelago
Petropavlovsk, Kamchatka
Paramushiro, Kurile Islands
Armuri, Kurile Islands
Nemuro, Island of Hokkaido, Kurile Islands
Yokohama, Japan
Tokyo, Japan
Aomori, Japan
(Hokkaido) To be used as a Supply Base
THIRD DIVISION
Shanghai, China
Amoy, China
Hong Kong, China
Haiphong, French Indo-China
Saigon, French Indo-China
Bangkok, Siam
Rangoon, Burma
Akyab, Burma
Calcutta, India
FOURTH DIVISION
Allahabad, India
Delhi, India
Karachi, India
Jask, Persia
Bandar Abbas, Persia
Bushire, Persia
Bagdad, Mesopotamia
Aleppo, Syria
Konia, Turkey
San Stefano, Turkey
FIFTH DIVISION
Bucharest, Rumania
Belgrade, Serbia
Budapest, Hungary
Vienna, Austria
Strassbourg, France
Paris, France
London, England
SIXTH DIVISION
Reykjavik, Iceland
Fredericksund, Faroe Islands
Thorshavn, Faroe Islands
Hvalfjord, Iceland
Akureyri, Iceland
Reykjavik, Iceland
Thorshavn, Faroe Islands
Fredericksund, Faroe Islands
Hvalfjord, Iceland
Akureyri, Iceland
Reykjavik, Iceland
Hawkinge, England
Pulham, England
Calshot, England
Halton, England
Stevenage, England
Montrose, Scotland
Fort William, Scotland
Inverness, Scotland
Kirkwall, Orkney Islands
Thurso, Scotland
Wick, Scotland
Lerwick, Shetland Islands
Sumburgh, Shetland Islands

Brief History of the Round the World Flight

World Fliers Covered 22,000 Miles from Seattle to Boston In 153 Days, Using 300 Flying Hours

The pioneer flight around the world, organized by the Army Air Service with the assistance of the Navy and Coast Guard, was divided into five divisions: the flight across the Pacific, the water flight from Japan to India, the overland flight from India to England, the crossing of the Atlantic and the last heat across the American continent. As will be noted, some two thirds of the 25,000 mi. flight was over water. The route chosen for the crossing of the two great oceans led the fliers almost up to the Arctic circle, where they met almost insurmountable difficulties in the line of fog and bad weather. Such a course however was made necessary by the limited cruising range of the planes used. The overwater flight from Japan to India was accomplished on schedule and without great difficulty as were the two overland divisions of the flight. In fact, it was the two excursions into the far north which caused the fliers to fall behind their schedule. The elapsed time of the flight from Seattle to Boston was 153 days or a little over five months. During this time our world fliers flew on 45 days. An approximate estimate would seem to indicate that some 72 of the non-flying days were spent waiting for good weather, while 36 days were spent in making repairs and adjustments. The distance flown from Seattle to Boston is approximately 22,022 mi., which was flown in about 298 hr. 37 min. at an average rate of speed of nearly 74 mi./hr.

Roster of Personnel

Following is the full roster of the personnel which comprised the American World Flight at its start:

Flagplane Seattle (No. 1)—Pilot and flight commander Maj. Frederick Martin; mechanic, Sergt. Alva L. Harvey.

Plane Chicago (No. 2)—Pilot (and flight commander after the Seattle's crash in Alaska), Lieut. Lowell H. Smith; mechanic and alternate pilot, Lieut. Leslie P. Arnold.

Plane Boston (No. 3)—Pilot, Lieut. Leigh Wade; mechanic, Staff Sergt. (later Sec. Lieut.) Henry H. Ogden.

Plane New Orleans (No. 4)—Pilot and engineer officer, Lieut. Erik Nelson; mechanic and maintenance officer, Lieut. John Harding, jr.

Of these four ships, the Chicago and the New Orleans alone circled the globe from Seattle to the Atlantic coast; the Boston was forced out off the Faroe Islands, but the crew resumed the flight at Pictou, N. S. on a spare plane, the Boston II, which was sent to them in recognition of their splendid effort. The Seattle, the original flagplane, only reached Alaska, where it crashed into a mountain in low visibility. The crew returned to the United States.

Crossing of the Pacific

The spanning of the Pacific which had never before been accomplished was perhaps the most difficult part of the flight. Almost the entire trip was flown through thick fog, with frequent sleet and snow storms which coated the planes with ice. At times great gales blew which held the fliers up for weeks at a time. The distance from Seattle to Tokio is only 5,281 mi., which required 80 hr. 24 min. of flying time, but the elapsed time was 47 days, which put the fliers a month behind schedule.

It was on this leg that Maj. Frederick Martin, leader of the expedition, was forced out. His first trouble was at Prince Rupert when he broke a strut on landing. At Portage Bay near Cape Igvak his crank case cracked and the loss of oil forced him down. The other fliers had gone ahead and it was not until the next day that the plane was found by the destroyer Hull. After the motor in his plane had been changed Major Martin was held up several days by bad weather. When he finally set out, the weather was still bad and he lost his way finally crashing into a mountain. After ten days of hardships he and his companion Sgt. Alva Harvey found their way to a settlement.

The three other fliers, now under the leadership of Lieut. Lowell Smith, continued by way of the Aelutian Islands,

Photo Kadel & Herbert

The Round the World Fliers with the Chief of Air Service—(L. to R.) Lieut. Harding, General Patrick, and Lieutenants Smith, Wade, Ogden, Arnold and Nelson

skirting the coast of Kamchatka and reaching Japan by way of the Kurile Islands. It will be remembered that it was off the coast of Kamchatka that Major McLaren, the British flier, was forced to give up his world tour by "impossible" flying weather. The Americans fortunately had no forced landings or serious motor trouble on this leg of the flight, but they were continuously held back by the weather and their getting through at all was really an extraordinary feat of navigation.

From Japan to India

On arrival at Kasumiga Ura, near Tokio, Japan, the American world fliers changed their engines and put on larger radiators. New floats were also installed as the old ones had soaked up much water. The route followed to Calcutta, India was along the coast of China and Siam and across the Malay peninsula to the coast of Burma and so on to Calcutta. The distance of 6,560 mi. was covered in 75 hr. 5 min. of flying time, while the elapsed time was 26 days. The flight was comparatively uneventful there being fortunately no typhoons. The only effect of the extreme heat and dampness encountered seems to have been to impair the lift of the machines, forcing them to refuel at more frequent intervals. Lieutenant Smith had a forced landing with the Chicago off the coast of Japan by a water leak, and a new motor had to be installed. He was again forced down off Tourane, Indochina, by another leak, and again put in a new motor. At Tavoy the Boston (Lieut. Leigh Wade, pilot) and New Orleans (Lieut. Erik Nelson, pilot) broke wires on taking off. At Rangoon, Burma, a junk drifted into one of the planes and damaged a wing.

India to England

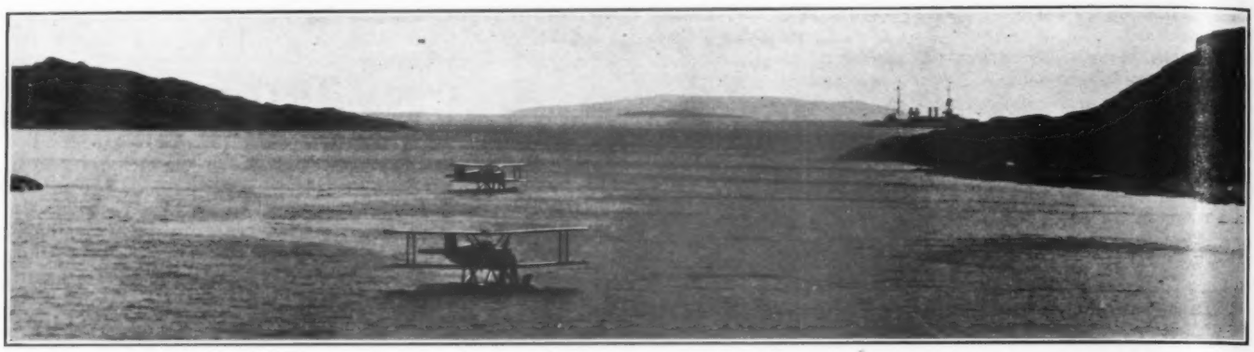
On the Calcutta-Brough division of the flight the Americans tried to catch up with their schedule and their performance was really extraordinary. They covered the 6,025 mi. in 84 hr. 47 min., but the elapsed time was only seventeen days. From Calcutta to Paris their time was fourteen days, of which three were spent changing motors at Karachi and one at Constantinople so that the Turks could inspect the machines. The British world fliers took 52 days to cover this distance. The Frenchman Doisy in his spectacular dash took twelve days, while the Argentine, Major Zanni took thirteen days. It will be noted that on this division which was flown with wheel landing gears, the American machines averaged less speed than they had on the Japan-India division which was flown with pontoons. This shows the force of the head wind which they were forced to buck by having chosen to fly westward.

At Calcutta new wings were put on, new motors installed and wheels substituted for pontoons. The extreme heat and rain of India made this portion of flight difficult and Lieutenant Nelson in the New Orleans twice cracked cylinders, though he was not forced down. However, it was decided to install new engines at Karachi after only 2,000 mi. of flight.

All this leg of the trip was made over more or less charted airways and all the landings were made at regular airdromes. From Karachi to Brough the fliers made extraordinarily good time and experienced no special difficulties. On reaching Brough the fliers were only two weeks behind their original schedule.

The Western Crossing of the Atlantic

The flight from England to America by the northern route presented great and unexpected difficulties. The American Scouting Fleet which was to patrol the course had not expected the fliers to catch up on their schedule and there was a ten day delay in getting the vessels into position. The ice conditions off Greenland were the worst experienced in twenty years, causing a long delay and the final changing of the course. The 4,156 mi. from Brough to Boston were covered in 58 hr. 21 min. flying time and thirty-eight days of elapsed time, but there were times when even the most optimistic did not expect the fliers to succeed. At Brough the ships had received new motors, smaller radiators were installed, and pontoons substituted for wheels.



Official Photo, U. S. Navy, from Kadel & Herbert

The World Fliers' first glimpse of the American Continent after they crossed the Atlantic ocean—Ice Tickle, Indian Harbor, Labrador, with Lieuts. Smith and Nelson's ships at anchor

On the flight from Kirkwall to Iceland the fliers became separated in the fog, Lieutenants Smith and Wade turning back and Lieutenant Nelson alone pushing on to Iceland. On the next day Lieutenant Smith reached Iceland, but Lieutenant Wade, in the Boston, had motor trouble, variously reported as breakage of either the gasoline or oil pump. The plane landed without damage off the Faroe Islands, but in an attempt to lift the plane onto the deck of the cruiser Richmond the crane broke and badly damaged the plane. An attempt was made to tow it but it proved unsuccessful and the plane was finally abandoned.

In trying to take off for the 825 mi. hop from Iceland to Greenland Lieutenant Smith broke the spreader bar between the pontoons of his machine, and Lieutenant Nelson broke a propeller. On this leg of the flight the machines several times had difficulties "unsticking" from the water. The flight from Iceland to Greenland was the longest non-stop flight of the trip and took Lieutenant Smith 9 hr. 55 min. and Lieutenant Nelson some 40 min. longer.

At Ivigtut, Greenland, new engines were fitted to the planes. Thick fog and icebergs made the flight extremely difficult. The rest of the trip was comparatively uneventful, except that Lieutenant Smith broke another spreader bar and Lieutenant Nelson had trouble with his gasoline pump, Lieutenant Arnold his mechanic keeping the ship in the air by manning the emergency hand pump for 4 hr. Lieutenant Wade, with a spare plane sent to him from Washington, D. C., joined the fliers at Pictou, Nova Scotia. The flight from that point to Boston was unexpectedly broken by a stop at Casco Bay, Me., due to low visibility.

During the course of the flight the engines in all the planes were changed five times. Lieutenant Smith had two forced landings, Lieutenant Wade one, and Lieutenant Nelson none. This excellent record would seem to justify the frequent changing of engines. There were only two flights where the aviators turned back after the start on account of bad weather, and only one which was interrupted by bad weather. As far as can be made out, with one or two exceptions the fliers did not get seriously off their course during the whole circumnavigating of the globe. This is a great credit to the instruments which they carried as well as to their skill as navigators and map readers. All things considered the flight went off with remarkable regularity.

The Public and the World Flight

Not the least among the results accomplished by the world flight has been the tremendous interest which it has aroused among the public in the United States and other countries. The progress of the flight during the last six months has been given in detail by the daily press, and the people of America have taken a new and more understanding interest in affairs aeronautical. Nothing in recent years has done more to arouse public interest in promoting aviation and establishing airports than this great pioneering flight which has caught the imagination of the man on the street and turned his thoughts to the unexplored highways of the sky.

In welcoming the fliers to Washington, President Coolidge said: "It is with a renewed faith in America that I welcome you. A new record of achievement has been made in the last six months by you in the domain of aviation. It has been made by men who wear the American uniform. It has been your skill, your perseverance, your courage that has brought this great honor to our country. In what is probably the greatest opportunity for future scientific development of transportation your enterprise has made America first. I trust the appreciation of your countrymen will be sufficient, so that in this field America always will be kept first."

A cable from the King of England read. "Will you kindly convey to Lieutenant Smith and the other fliers my hearty congratulations on completion, for the first time in history, of the circling of the world by airplanes?

"I have followed with interest and admiration the progress of this heroic undertaking."

"GEORGE, R. I."

Governor Cox of Massachusetts, after welcoming the fliers and congratulating them on their exploit, said he hoped that the importance of aviation would be realized in the New England states and that every municipality would soon establish a landing field.

Senator James W. Wadsworth in welcoming the fliers to New York said: "If our hospitality seems ferocious forgive us because it comes from the heart. You will find as you proceed along the home stretch that these receptions are the first evidence of the feeling that all Americans long to show you. The world never forgets its pathfinders. Those who trod the wilderness and cross the seas filled with dangers are never forgotten by posterity."

LOG OF THE ROUND THE WORLD FLIGHT

Date of Arrival		*Mi.*	*Hr.*	*Min.*
Start from Santa Monica, Cal., to				
March 17	Sacramento	370	4	32
March 18	Eugene, Ore.	660	6	05
March 19	Vancouver, Wash.	130	1	30
March 20	Seattle, Wash.	195	2	23
April 6	Prince Rupert, B.C.	610	8	10
April 10	Sitka, Alaska.	300	4	20
April 14	Seward, Alaska.	610	7	45
April 15	Chignic, Aelutian Peninsula	450	6	45
April 19	Dutch Harbor.	400	7	20
May 3	Atka, Aelutian Archipelago.	350	8	05
May 9	Attu Island.	530	8	05
May 16	Komandorski, Kamchatka.	400	5	39
May 17	Paramashiru, Kurile Islands.	427	6	35
May 19	Hittokapu, Island of Yetorofu.	500	7	15
May 22	Minato, Japan.	354	5	10
" "	Kasumiga Ura, Japan.	350	5	15
June 1	Kushimoto, Japan.	350	5	10
June 2	Kagoshima, Japan.	350	6	05
June 5	Shanghai, China.	610	6	25
June 7	Amoy, China.	555	7	15
June 8	Hongkong, China.	300	3	25
June 10	Haiphong, French Indo-China.	500	7	20
June 11	Tourane, French Indo-China.	395	6	25
June 16	Saigon, French Indo-China.	530	7	35
June 18	Kawrong Island.	340	4	10
" "	Bangkok, Siam.	335	4	05
June 20	Tavoy, Malay Peninsula.	240	3	50
" "	Rangoon, Burma.	210	3	20
June 25	Aykab, Burma.	445	4	30
June 26	Chittagong, India.	180	2	10
" "	Calcutta, India.	220	3	20
July 1	Allahabad, India.	475	6	25
July 2	Umballa, India.	500	5	25
July 3	Multan, India.	325	4	42
July 4	Karachi, India.	475	7	05
July 7	Chabar, Persia.	330	5	55
" "	Bendar Abbas, Persia.	400	4	05
July 8	Bushire, Persia.	200	4	07
" "	Bagdad, Mesopotamia.	275	6	30
July 9	Aleppo, Turkey.	480	6	15
July 10	Constantinople, Turkey.	600	7	40
July 12	Bucharest, Roumania.	300	3	25
July 13	Budapest, Hungary.	500	6	50
" "	Vienna, Austria.	140	2	05
July 14	Strasbourg, France.	400	6	30
" "	Paris, France.	250	2	45
July 16	London, England.	225	3	03
July 17	Brough, England.	150	2	00
July 30	Kirkwall, Scotland.	400	5	30
Aug. 2	Hornafjord, Iceland.	560	8	19
Aug. 5	Reykjavik, Iceland.	350	4	58
Aug. 21	Frederiksdal, Greenland.	825	9	55
Aug. 24	Ivigtut, Greenland.	150	2	15
Aug. 31	Indian Harbor, Labrador.	572	6	39
Sept. 2	Hawkes Bay, N. F.	350	5	33
Sept. 3	Pictou, N. S.	420	6	34
Sept. 5	Casco Bay, Maine.	400	6	35
Sept. 6	Boston, Mass.	129	2	03
Total		23,377 mi.	313 hr.	7 min.

Secretary of War Weeks, at a dinner given in Washington in honor of the world fliers, said in part: "Not only has the flight been successful, but it has been carried on in a way that reflects great credit on you and the United States Army, and your personal conduct has increased the cordial feeling existing between those nations which your planes have touched and our Government. I have had brought to my attention numerous instances of the tact and good judgment with which you have handled yourselves in relatively delicate situations."

The prestige gained in foreign countries by American aviation as a result of the flight can in effect be hardly overestimated. *L'Aéronautique*, the leading French aeronautical monthly, says:

"The brief passage of the fliers in France gave us a high opinion of aviation in the United States and of the men which it has available."

The above are a few of the thousands of written and spoken comments which have been made about the world flight. All the newspapers throughout America have had editorials on the flight. Most of them have taken the occasion to comment on the inadequacy of our Air Service and to urge Congress and the Secretaries of the Army and Navy to expand this branch of the service. They have also urged the encouragement of civil aviation and the establishment of landing fields in their cities. The crowds which have greeted the fliers at their stops in the United States are sufficient proof of the interest and enthusiasm which has been aroused. Periodicals will undoubtedly carry many interesting articles on the flight and the growth of "air mindedness" will be greatly encouraged.

Factors of Success in the World Flight

Equipment, Advance Organization and Cooperation

In any consideration of the factors which contributed to the success of the around the world flight the extraordinary qualities of the personnel must be given the first place. Stamina, courage, great skill in navigating and map reading, patience, a willingness to do hard work day in, day out—often at the cost of sleep—and to plan in advance, were all needed by the fliers to the utmost degree. The lack of any of these qualities would have caused the failure of the flight. Our Air Service is of a high quality, but the selection of the personnel for the flight was done with rare discretion. Whenever their machines required their presence the fliers resisted the many tempting offers of entertainment which were offered them along the route, and it is this devotion to duty which made the flight possible. There can have been little of the "temperamental stuff" and refusal to get the hands dirty which is characteristic of so many fliers. Throughout the trip the fliers seem to have created a favorable impression of efficiency, concentration on their task and sportsmanship. A detailed biography of the fliers was given in our issue of Jan. 14, 1924.

It is of interest to note that both Lieutenant Smith and Lieutenant Nelson are over thirty, whereas Lieutenant Wade is only slightly younger. All three of the fliers had previously had over 1,500 hr. in the air, much of it on cross country flights.

The Douglas World Cruisers

The performance of the Douglas World Cruisers has been so smooth and perfect as to attract little attention. The planes have been out in the open since they started from Santa Monica, Calif., they have been subject to the cold and ice of the Arctic, to the heat and humidity of the tropics and to the dry air of the desert, but from all accounts no trouble developed in any of the four planes which started. A couple of broken pontoon spreader bars and pontoon bracing wires were the only troubles reported, and these were caused by undue strain in bad weather. No trouble was experienced from the fabric covered wings. The replacing of the wings in Calcutta was more of a precaution than a necessity. Over 80,000 mi. flown under the conditions which faced the world

P. & A. Photos

The U. S. world cruiser New Orleans, Lieut. Erik Nelson's plane being hauled ashore at Reykjavik, Iceland. Lieut. John Harding is kneeling on the starboard float, while Lieut. Lowell Smith is standing beside the boat, directing operations

Photo International

President Coolidge, surrounded by members of his Cabinet, greets the World Fliers upon their arrival at Bolling Field, Washington, D. C.

fliers is indeed a tribute to the design and workmanship involved in the construction of the plane. Donald W. Douglas certainly has a right to feel proud of the work which he has done, and he deserves no little credit for his share in the success of the flight.

Mr. Douglas was born in 1892. He went through the U. S. Naval Academy and the M.I.T. where he became an Assistant Professor in aerodynamics. During 1915 and 1916 he was chief engineer with the Glenn L. Martin Co. In 1916 he became the chief civilian aeronautical engineer with the Signal Corps, but in 1917 he returned to the Martin Co. In 1920 he moved out to Santa Monica, Calif., where he established a factory of his own. The original Douglas plane was developed for the Navy as a torpedo and bombing plane. It was so successful that it became the standard of the Navy for that type.

In 1923 the ship which is now known as the Boston II was purchased by the Army and tested at McCook Field as a land plane, and at Langley Field as a seaplane. As a result of these tests it was decided to adopt the Douglas machine as the World Cruiser and four more were ordered. Simplicity and ruggedness are the first things that impress one in looking at the machine. A more detailed inspection reveals many refinements in the detail of design and one begins to realize why the machine has been so successful. The fact that (with the exception of Major Martin's ship) none of the planes had to have replacements due to crashes is almost as much of a testimonial to the maneuverability and flying qualities of the planes as to the ability of the pilots.

The detailed specifications of the Douglas plane were given in our issue of Feb. 25, 1924. The general characteristics of the plane are as follows: weight empty 4,300 lb., useful load 2,615 lb. (as a land plane). Span 50 ft., length 35 ft. The engine used was the Liberty-12, developing a little over 400 hp. The high speed of the machines was a little over 100 mi./hr. with a landing speed of 55 mi./hr. The average cruising speed on the trip was 74 mi./hr., but the actual air speed was probably around 80 mi./hr.

The Liberty Engine

Seventy Liberty engines were rebuilt by the Rock Island Arsenal for use in the World Cruisers. The best thirty-five of these were chosen for the flight and shipped to various parts of the world. On the torque stand they developed 410 hp. which means a little better than 2 lb./hp.

These engines were fitted with modified cylinders having reinforced heads, a practice which has proved practical in obviating water packet leaks, so prevalent with this type of engine. A successful method was worked out for giving the cylinders an initial distortion, so that they will be round after welding in the reinforcing place. Each engine is assembled with long studs for mounting the electric starting equipment. Ignition is furnished by a Delco system, using a standard distributor without booster attachment. Fuel is supplied by a single engine-driven gear pump, operating as the main system, supported by one wind-driven pump as an auxiliary and a hand wabble pump for emergency purposes. The engine-driven gear pump is favored principally because of its ability to pass dirt, grit and other foreign substances without impairing its operation.

Eclipse (formerly Bijur) electric starters of the ignition end type were used on all the Liberty engines in the American

World Flight. Their excellent performance under the varied and extraordinary conditions of climate and terrain encountered by the planes indicates that in the near future an efficient airplane starter will be considered essential equipment by every pilot.

The ships started out with specially built McCook Field propellers, but when they arrived at Mitchel Field, N. Y., it was noted that two out of the three machines carried Hamilton propellers. Electric starters and a hand crank were fitted to the engines. An extra five gallon water tank was fitted in the leading edge of the upper wing. In fact everything which could be done to insure reliability of the power plant was gone into with the utmost care. The results have again emphasized the worth of the Liberty-12 engine.

Cooperation of the Navy

The Douglas ships were originally developed by the Navy and as most of the route lay over water it was assumed by many that the Navy would look on the flight with envy. However they came across like the good sports which they are, and their help was an invaluable assistance to the fliers. Destroyers attended to the needs of the fliers and gave them shelter on all their over water trips. Giving service which extends practically around the globe is no mean task and the Navy deserves much credit. As Lieutenant Smith put it on his arrival in New York:

"The Navy was wonderful. Both off the Aleutian Islands and in the North Atlantic they treated us as if we were doing the flight for them, and we are most grateful. And I want to say a word for the Coast Guard, that little branch of the Government that we had hardly ever heard of before the Aleutian Islands flight, but which we can now never forget because of the help they gave us there."

The fine spirit of camaraderie that was displayed by the foreign air services in assisting our fliers at their various stops also deserves grateful mention.

Advance Preparations

One of the first steps in preparing the way for the trip was undertaken by the State Department when they obtained permission from the fourteen countries on the route for the passage of our military planes. The route was then divided into six divisions and an advance officer was assigned to each, as follows:

First Division, Seattle, Wash. to Kashiwbaara Bay, Kurile Islands, Japan—First Lieut. Clayton L. Bissell of Washington, D. C.

Second Division, Through Japan to Shanghai, China—First Lieut. Clifford C. Nutt, detached from the Philippine Island Department.

Third Division, Across China, French Indo-China, Siam, Burma and part of India to Calcutta, India—First Lieut. Malcolm S. Lawton of the Philippine Department.

Fourth Division, Across India, Persia, Iraq, Syria and Turkey to San Stefano, Turkey near Constantinople—First Lieut. Harry A. Halverson of the Philippine Department.

Fifth Division, Across Europe to London, England—Maj. Carlyle H. Wash, Air Attache, Paris, France.

Sixth Division, From London, England, Across Scotland, the Faroe Islands, Iceland, Greenland and back to America—First Lieut. Clarence E. Crumrine of McCook Field, Dayton, Ohio.

At each of the fifty odd stops along the route the advance officers prepared stocks of gasoline, oil and spare parts. They laid moorings buoys and arranged for the lodging of the fliers. This work was well done and these careful preparations did much to prevent delay and to smooth the path of the fliers. The adventures of these advance agents in getting supplies to places which lacked transportation would form a chapter in itself. The Navy and Coast Guard cooperated with them in this work, and at no time were the fliers held up by lack of supplies or inadequate facilities.

The Feats of Navigation

The fog conditions in the far north were such as to make flight almost impossible. Both Major Maclaren and Lieut. Antonio Locatelli were put out of the race by fog. It was impossible to escape the fog, but the weather forecasts furnished to our airmen gave them the best possible chance and though they were turned back several times by thick weather they would have never accomplished the flight in time had they not risked just such weather.

The navigation of the planes is one of the utmost interest and the pilots seem to have shown a rare ability in keeping on their course. To what extent they depended on their instruments and to what extent on their instinct is at present hard to tell. AVIATION hopes to have a detailed article on the subject at a later date. The fliers kept the earth or water in sight almost throughout their trip, and used the destroyer patrols to check up on their course across the Atlantic and some of the way across the Pacific. The Pioneer Earth Inductor compass seems to have proved its value, but due to the thick weather on the difficult parts of the flight it was impossible to use the sextant which the Portuguese fliers used so successfully on their long flight from Lisbon to South America. The directional wireless which the fliers requested for the Atlantic hop does not seem to have been ready in time, and so its practical value could not be demonstrated.

Material and Equipment Used

Alemite Lubricating System—The Bassick Co., Chicago, Ill.

Altimeters—Taylor Instrument Co., Rochester, N. Y.

Batteries, Ignition, 8-volt—Willard Storage Battery Co., Cleveland, Ohio.

Batteries, Storage, 12-volt—Willard Storage Battery Co., Cleveland, Ohio.

Batteries, Storage, Type AS-2, 12-volt—Electric Storage Battery Co., Philadelphia, Pa.

Bottles, Thermos, (Universal Vacuum bottle)—Landers, Frary & Clark, New Britain, Conn.

Breeches, Wading—Goodyear Tire & Rubber Co., Akron, Ohio.

Lamps (Bulbs) Electric—Western Electric Co., New York, N. Y.

P. & A. Photos

General Patrick congratulates Lieut. Smith on the World Fliers' arrival at Mitchel Field. To the right, Lieut. Arnold

Cameras—Eastman Kodak Co., Rochester, N. Y.

Coats, Kapok—A. G. Spalding & Bros., New York, N. Y.

Compasses—General Electric Co., Schenectady, N. Y.

Compasses, Earth Inductor—Pioneer Instrument Co., Brooklyn, N. Y.

Compass, Master—Sperry Gyroscope Co., Brooklyn, N. Y.

Cores, Tire, Valve—A. Schrader's Son, Inc., Brooklyn, N. Y.

Dope—Titanine Co., Inc., Union, Union Co., N. J.

Ezy-Outs—Cleveland Twist Drill Co., Cleveland, Ohio.

Flashlights—Yale Electric Corp., Brooklyn, N. Y.

Gasket Paper (Vellumoid)—Fibre Finishing Co., Boston, Mass.

Glue, Marine—L. W. Ferdinand & Co., Boston, Mass.

Goggles, (Aviaglass)—American Optical Co., Southbridge, Mass.

Goggles (Gogglette)—E. B. Meyrovitz, Inc., New York.

Grinders, Portable Hand Driven (American)—American Grinder Mfg. Co., Milwaukee, Wis.
Hoists, Chain—Yale & Towne Mfg. Co., New York, N. Y.
Hose—B. F. Goodrich Co., Akron, Ohio.
Indicators, Air Speed—Foxboro Co., Inc., Foxboro, Mass.
Indicators, Flight—Pioneer Instrument Co., Brooklyn, N. Y.
Jacks (Badger)—Walker Mfg. Co., Racine, Wis.
Oil—Vacuum Oil Co., 61 Broadway, N. Y.
Propellers—Hamilton Manufacturing Co., Milwaukee, Wis.
Pullers, Nail—Bridgeport Hardware Mfg. Co., Bridgeport, Conn.
Pumps, Bilge—Wilcox Crittenden Co., Middletown, Conn.

Photo Kadel & Herbert

Maj. L. D. Gardner (holding field glasses), publisher of AVIATION, *broadcasting from Mitchel Field on the World Fliers arrival there. Lieut. Rath flying a radio equipped DH4B, kept Mitchel Field informed of the World Fliers' progress from Boston*

Pump, Refueling—Blackmer Rotary Pump Co., Petosky, Mich.
Pumps, Tire—Frank Rose Mfg. Co., Hastings, Nebr.
Fire Extinguishers—Pyrene Mfg. Co., Newark, N. J.
Radiator Compound—X Laboratories, New York, N. Y.
Spark Plugs—B. G. Corp., New York, N. Y.
Spark Plugs—Mosler Metal Products Corp., Mt. Vernon, N. Y.
Starters (Liberty)—Eclipse Machine Co., Hoboken, N. J.
Tap and Die Sets—Greenfield Tap & Die Co., Greenfield, Mass.
Tape, Friction (Dutch Brand)—Van Cleef Bros., Chicago, Ill.
Thermometers, Distance Type—The Motometer Co., Long Island City, N. Y.
Tires—Goodyear Tire & Rubber Co., Akron, Ohio.
Tubes, Inner—Ajax Rubber Co., Inc., New York, N. Y.
Unionalls—H. D. Lee Mercantile Co., South Bend, Ind.
Valves, Liberty Engine—The Steel Products Co., Cleveland, Ohio.
Varnish, Valspar—Valentine & Co., New York, N. Y.
Veneer—The Haskelite Co., Chicago, Ill.
Wheels—Dayton Wire Wheel Co., Dayton, Ohio.
Wires, Streamline—Stewart Hartshorne Co., New York.

The Starters Used in World Flight

The starters used on the Liberty engines in the World Flight were the Bijur type of ignition end airplane starter, now manufactured by the Eclipse Machine Co., Hoboken, N. J.

In an Associated Press despatch from Dayton, Ohio, Sept. 14, recording the arrival of the world fliers at McCook Field this sentence appears: "Two improvements developed at McCook Field—an electric starter and an advanced ignition system—were given their first test on the flight." It was further stated that they functioned perfectly.

The Bijur type starter, actually used on the World Flight, consists of an electric motor geared approximately 100 : 1 through a bevel gear and planetary system to an automatic engaging pinion, meshing with internally splined projecting end of the engine crankshaft. Further, a self-releasing clutch has been incorporated to prevent damage in the event of backfire. A remote control starter switch of the solenoid type is used in connection with a push button pilot to reduce unnecessary weight of heavy starting cable.

The total weight of starter including motor housing, gearing, automatic meshing and demeshing mechanism and backfire release device is about thirty-two pounds.

The starters for the World Cruisers were further equipped with a hand cranking attachment directly connected to the starter housing and consisting of a 1 : 1 ball bearing mounted bevel gear drive with adjustable position for the hand crankshaft at any angle desired through the fuselage. This hand crank gear train also contains a mechanism to prevent backward rotation of the hand crank in case of backfire, thus making hand cranking, if desired, absolutely safe. The drive ratio when using the hand crank is approximately 23 : 1.

The stall torque translated to the engine crankshaft is 900 lb. ft. on this type, although this value runs as high as 2500 lb. ft. in the larger sizes.

The motor is operated by means of a 12-volt storage battery carried on the plane. The same battery can be used both for ignition, wireless, lights, and clothe-heating if desired. The motor cranks a normally stiff engine at about 30 r.p.m. with a 200 ampere current consumption.

Royal Aeronautical Society Lectures

The Council of the Royal Aeronautical Society announces the following program of lectures for the Session 1924-25 so far as at present arranged. Further lectures to complete the program will be announced later. Advance copies of all lectures may be obtained from the Secretary, 7, Albermarle Street, London, W.1, England, at 6d each or 5s for the series.

1924

Oct. 2. Lt. Col. H. T. Tizard, A.F.C., F.R.Ae.S., (of the Department of Scientific and Industrial Research), Chairman: Inaugural Lecture.

Oct. 16. Dr. A. Rohrbach (of the Rohrbach Metall- Flugzeugbau Co.): "Large All-Metal Seaplanes."

Oct. 30. Maj. J. S. Buchanan, A.F.R.Ae.S. (of the Technical Department, Air Ministry): "The R.Ae.C. Light Aeroplane Competitions."

Nov. 13. Professor L. Bairstow, C.B.E., F.R.S., F.R.Ae.S., (Zaharoff Professor of Aeronautics, University of London): "Skin Friction."

Nov. 27. Dr. G. C. Simpson, C.B.E., F.R.S. (Director, Meteorological Office): "Thunderstorms."

Dec. 4. Col. F. Searle, C.B.E., D.S.O. (Managing Director, Imperial Airways, Limited): "The Maintenance of Commercial Aircraft."

Dec. 18. A. R. Watson Watt (Superintendent, Radio Research Board Station): "Recent Studies on Radiotelegraphic Atmospheres."

1925

Feb. 5. Air Commodore C. R. Samson, C.M.G., D.S.O., A.F.C., A.F.R.Ae.S. "The Operation of Flying Boats in the Mediterranean."

Feb. 19. Maj. R. V. Southwell, A.F.R.Ae.S. (Superintendent, Aerodynamics Department, National Physical Laboratory): (Title to be announced later).

March 5. Lt. Col. C. B. Heald, C.B.E. (Medical Adviser to the Director of Civil Aviation, Air Ministry): "Some Medical Aspects of Air Transport."

March 26. Dr. Eckener (Managing Director, Zeppelin Airship Co.): "Modern Zeppelin Airships."

AIRPORTS AND AIRWAYS

Boston News

By G. W. Hamblin, jr.

Halsey R. Bazeley, on his way back from the Marshfield Fair, was carrying passengers at Brant Rock, when his aileron control either gave way or jammed, and he slipped into a tail-spin and crashed, sustaining slight injuries, as did his passenger, who, by the way, was landed in his back yard. Two small garages and a front veranda were badly damaged. His Jennie was pretty badly damaged.

* * *

Lieut. R. C. Moffat, flying a PW8 Curtiss Pursuit ship came in from Mitchel Field, N. Y., Tuesday, Aug. 26, in a terrific storm. He landed at Mitchel Field Monday from Selfridge Field, Mich. The first landmark he recognized was Camp Devens, Ayer. He landed there, and about quarter past six, hopped off for the Airport, landing here at about six-thirty. His ship was given quite a test in its battle with the elements, but an examination showed no signs of weakness.

* * *

Three DH's dropped in Friday morning from Mitchel Field, N. Y., en route to Old Orchard, Me., where there was an aerial circus. The ships are of the squadron of five white winged DH's that are coming up to escort the World Fliers to Mitchel Field. They contained Lieutenants Connell, Pitts, Brandt, Macauley and Mr. Burnelli, brother of the designer of the Remington-Burnelli Airliner. It took 2 hr. 10 min. for the ships to reach Boston.

That same morning a DH came in from Mitchel Field in 1 hr. 52 min., carrying Lieutenant MacDuffy. He had a complete photographic outfit in the rear seat. He hopped off immediately for Mitchel Field, so as to be in time for lunch.

* * *

Lieutenant Goddard came in Sunday afternoon about 5:30, from Bolling Field, Washington, D. C. He made the entire trip in the afternoon. He is here to act in the capacity of official photographer of the landing of the World Flight Squadron.

* * *

Three ships went up to Old Orchard, Me., last Saturday afternoon, to take part in the Aerial Circus there. They were: a Jennie, flown by Lieut. F. C. Crowley, A.S.,O.R.C., a DH flown by Capt. E. W. Killgore, with Lieut. R. A. Nagle as passenger, both Reserve men, and the PW8, flown by Lieut. R. C. Moffat.

They returned Sunday morning, Lieutenant Moffat making the ninety odd miles in 48 min.

St. Louis News

Labor day was celebrated at the Lambert-St. Louis Flying Field at Bridgeton with a reunion of aviators who served in the World War.

Although twenty or more planes, expected at the meet from other fields, failed to arrive, the thirteen ships and their pilots that were on hand provided plenty of thrills for spectators from 2 p. m. until the rainstorm cut short the performance at 5 o'clock.

About 4000 persons, including Adj. Gen. William A. Raupp, witnessed the exhibition, which included a parachute leap from a height of 1500 ft., a spin of 3000 ft., two "dead stick" landings and numerous other aerobatics such as barrel-rolls, loops, and falling leaf descents from high altitudes.

Probably the most dexterous exhibition of airplane manipulation was that given by Floyd Clevenger of Los Angeles as the first event on the program. Clevenger, who is a performer of the Gates Aerial Circus, was an aviation instructor on the Western front during the World War. Ascending about 5000 ft., in a small Thomas-Morse scout plane, he put his craft through a series of maneuvers that thrilled the uninitiated and caused experienced fliers to gasp in admiration. He executed barrel rolls and breath-taking turns with the grace of a dancer performing intricate steps on a ballroom floor, and then came out of the sky in a "falling leaf." Another bit of fancy flying called "skating," said to be of his own devising, was added as an encore. This comprised a series of peculiar sidewise movements resembling the strokes of a skater.

Maj. William B. Robertson, president of the Robertson Aircraft Corp. of St. Louis, contributed a "dead stick" landing to the program. Flying at 4000 ft., he shut off his engine and came gliding down in a spiral course and made a perfect landing.

Lieut. Frank T. Dunn, an Australian airman, who served in France with the Canadian Expeditionary Forces, later duplicated Major Robertson's feat, after executing several hazardous stunts. Flying a specially-constructed Canadian plane, he performed several loops, and then dropped about 3000 ft. in a spectacular spin, later shutting off his motor and landing with a dead stick.

A parchute leap by Sergt. Ralph Douglass was the event which kept the spectators in a state of greatest excitement. Sergeant Douglass was the aerial acrobat who narrowly escaped death at Nevada, Mo., recently, when he failed in his attempt to climb the rope upon which he was suspended from a plane. He was rescued when the rope was cut above a lake, plunging him into the water.

Douglass leaped from an altitude of 1500 ft. without mishap, although he was compelled to squirm vigorously to prevent being precipitated upon the roof of a farmhouse at the border of the field. The pilot had miscalculated the force of the wind and dropped him too near the "rough," depending upon the air current to carry him into the field. His drop was almost perpendicular and he missed the farmhouse only by inches.

Spokane News

By E. H. Partridge

Active efforts to have Spokane placed on a branch Air Mail line which would extend from Elko, Nev., on the main line, to Spokane have been started by Chamber of Commerce officials here. Postmaster T. J. Smith is assisting. With one plane each way daily, Spokane would have 48 hr. mail service to and from New York city. Because both east and west bound planes reach Elko close together, mail from both east and west could be carried into Spokane with one trip.

After three months of barnstorming, Pilot Nick B. Mamer is back in Spokane again. Fair contracts will keep him busy for a few weeks. He has completely overhauled all equipment to be ready for all cross country, photographic, and news dispatch work available. He expects to equal his last year's record of 30,000 mi. of contracted cross country work.

C. H. Messer, head of the U. S. Aircraft Corp. of Spokane, has one of the few complete stocks of Liberty motor parts in the west. Army and other fliers have been invited to avail themselves of his service.

Air Mail Information

Announcement was made by Postmaster General New on Sept. 3 that matter sent by Air Mail may be forwarded to the addressee or returned to the sender by the same means where the delivery of the matter will be expedited if carried by air. No additional charge for postage will be made for forwarding or return of matter in this manner except in cases where it is forwarded or returned to a place beyond the air mail zone for which postage was originally paid. In this event the matter will be rated with postage due sufficient to cover the amount chargeable for the carriage of the matter by air from the point of original mailing to the office for final delivery.

LIGHT PLANES AND GLIDERS

Edited by Edmund T. Allen

The Rickenbacker Trophy

The National Aeronautic Association announces that the trophy for light planes offered by Capt. E. V. Rickenbacker will be competed for in annual contests, the first of which will be held in connection with the Dayton Air Races.

The 1924 contest will be a cross country race for civilian-owned light planes equipped with engines of 80 cu. in. displacement or less. Several planes of this type will be entered in two events of the International Air Races which are to be held Oct. 2, 3 and 4, at Dayton, Ohio.

The Rickenbacker Trophy for light planes

In order to permit entry of these planes, the 1924 Rickenbacker Trophy cross country race for light planes will start at Wilbur Wright Field on Oct. 6. The finish will take place at the city offering the greatest inducement in the way of additional prize money. Bids are now being received from cities and Aero Clubs located within a two hundred mile radius of Dayton. Bids with prize guarantee may be addressed to B. Russell Shaw, Race Executive, International Air Races, Inc., Dayton, Ohio, or they may be sent direct to this office and must be received on or before 6 p. m. Sept. 20, 1924. The race course and successful bidder will be announced later.

Mr. Rickenbacker has offered $1,000 in cash prizes in addition to gold, silver and bronze plaques to the winners of first, second and third place.

New German Light Plane

The Udet firm of Munich, Bavaria, which during the past two years produced some very efficient low powered two and three seater commercial airplanes, has brought out a remarkable light plane, named the Colibri.

The Colibri is a cantilever monoplane equipped with a 500 cu. cm. Douglas engine which develops approximately a maximum of 18 hp. The wing is built in two pieces, and is carried in parasol fashion by a cabane of six steel struts. The pilot's cockpit is situated under the wing. The fuselage is plywood covered, and has a side entrance door and a locker for small baggage.

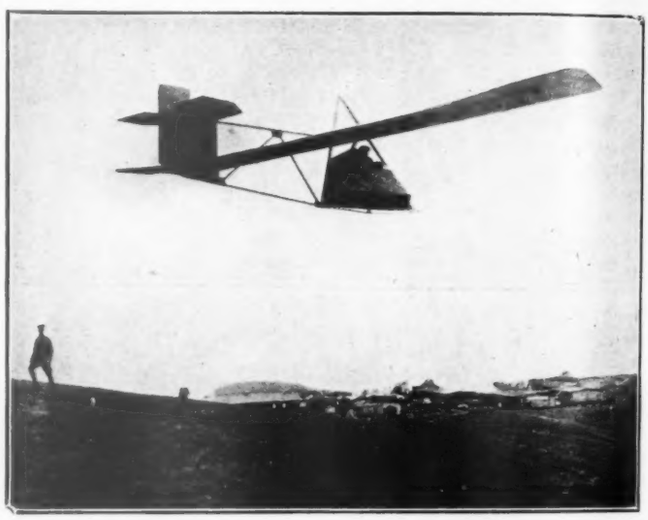


Photo Kadel & Herbert

New German glider, flying at the Roehn meet piloted by W. Hirth. The simplicity of construction is noteworthy

The machine is said to be extremely easy and safe to fly, and has been designed for simplicity of upkeep and ease of transport and stowage. The wings can be taken down and folded against the fuselage, where they are held by suitable locking devices, in two minutes by one man.

The machine recently won the 2,000 mark prize of the German Scientific Society of Aeronautics for the first 2 hr. flight made by a German light plane.

SPECIFICATIONS OF THE UDET COLIBRI

Span	32 ft. 10 in.	Engine	500 cu. cm. Douglas
Length	18 ft.		
Height	6 ft.	Fuel capacity	4 hr.
Wing area	135 sq. ft.	High speed	75 mi./hr.
Weight empty	330 lb.	Low speed	31 mi./hr.
Weight loaded	550 lb.	Climb to 3300 ft.	8 min.
Wing loading	41 lb./sq. ft.	Range	300 mi.
		Power loading	30 lb./hp.

Gift to Sailplane Champion

Hermann Steil, a wealthy furniture manufacturer of Tilsit, Germany, has presented to Ferdinand Schulz, holder of the world's endurance record for gliding a new sailplane built after the latter's specifications in the Steil shops.

Schulz's old glider, in which he remained in the air 8 hr. 45 min., was a home-made affair.

French Grand Prix for Transport Planes

This year's Grand Prix for Transport Planes, which was endowed by the French Under Secretary for Aeronautics with 800,000 francs in cash prizes, was held at Le Bourget Aug. 17-24. In addition, the Aero Club of France was granted the sum of 75,000 francs for organization purposes.

In its general lines the competition was similar to that held last year. It was restricted to large capacity multi-motored airplanes carrying a crew of three, sufficient fuel to cover 300 mi. in an average head wind of 22 mi./hr., and a minimum of eight passengers counted in 220 lb. units, which included their baggage.

As was the case last year, there were only three entrants, Farman, Blériot and Caudron, and these constructors entered practically the same ships as in the 1923 competition. Farman entered the "Jabiru" cantilever monoplane equipped with four 180 hp. Hispano-Suiza engines and Lamblin radiators which won last year's Grand Prix and which again proved the winner this year. This ship measures 62 ft. in span and 46 ft. in length, and weighs 7570 lb. empty and 11,450 lb. loaded. The wing area is 872 sq. ft. The cabin accommodates ten passengers.

The Blériot entry, type 135, was identical with last year's ship, type 115, except that four 230 hp. Salmson engines had been fitted in place of the four 180 hp. Hispanos with which the original machine was equipped.

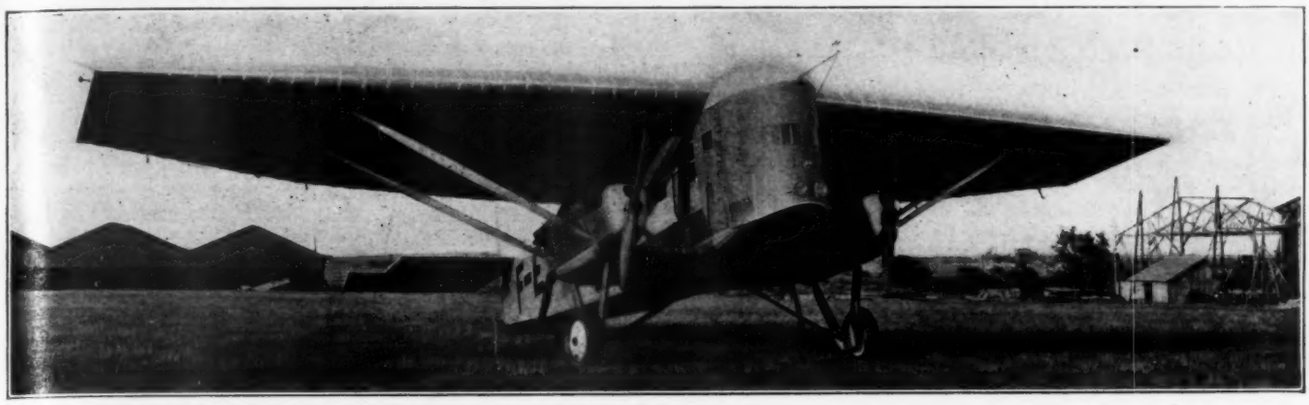
Caudron entered the C81 biplane, fitted with three 230 hp. Salmson engines, several of which are employed on the night flying service of the Franco-Roumaine company between Belgrade and Constantinople.

In the qualifying trials the contestants had to describe in flight four figure-eights with each of the engines stopped in turn without the plane losing any altitude. The time required for each figure-eight must not exceed 3 min. and each of the engines must be started again in flight before landing. Three days were allotted for these trials.

The competition proper for the Grand Prix was flown over the route Paris-Bordeaux-Paris, and competitors were required to cover the distance once a day for three consecutive days. The journey from Paris to Bordeaux and back is approximately 640 mi., so that in all the competitors had to fly a distance of 1,920 mi. The award of the first prize of 300,000 francs, and second prize of 200,000 francs, was based upon a formula, according to which the machines were judged. The formula was $\frac{P.V^2}{W}$ in which P = useful load carried, V = speed attained, in km./hr., and W = the horsepower of the engines.

The Grand Prix commenced on Aug. 20 and finished on Aug. 22. The machines started from le Bourget, flew to Bordeaux, where there was a compulsory stop of 45 min., and then returned to le Bourget. The Caudron machine came down near Tours with magneto trouble, and although another start was made later, Patin, its pilot, ultimately decided to abandon the attempt. Very bad weather was encountered on all three days, but in spite of this fact the two remaining machines made fairly good time. The Farman, piloted by Bossoutrot and Coupet, and with Marcel Lebourg as mechanic, made the following speeds over the Paris-Bordeaux-Paris route:—First day, 111.3 mi./hr. Second day, 112.5 mi./hr. Third day, 110 mi./hr. The useful load (which did not include fuel and crew) was 1,870 lb.

The Blériot 135 was piloted by Bizot and Villechanoux, with Captain Dagnaux as navigator. The first flight was made at the average speed of 88.5 mi./hr. Second day, 92.5 mi./hr. Third day, 98.7 mi./hr. The Blériot, with a greater engine power, was carrying 2,200 lb. useful load, and the lower speed was against it, the more so as the square of the speed is used in the formula and a premium thus placed on speed rather than on useful load per horsepower.



The Farman "Jabiru" (four 180 hp. Hispano-Suiza engines) which for the second consecutive year won the French Air Transport Grand Prize competition for multi-motored cabin planes. Pilots: Bossoutrot and Coupet

Projected International Air Service

Rumors have been current for some time that Marseille, France, was to become one of the main bases of a new international air transport system. The most persistent rumor has been that of cooperation of British, Dutch and French interests in a Swiss, Mediterranean and Near Eastern service, designed to enter this field through the gateways of the upper and lower Rhône so as to forestall the efforts of the German air combine to expand toward the South and Southeast.

The first definite information available, from a reliable source, is the following article, over the signature of the Chief-Engineer of Bridges and Roads of the Department of Rhone, which recently appeared in *L'Information*, of Paris.

The airway system which the Service de la Navigation Aérienne is now creating comprises, notably, the great international system which, based on the common trunk London-Paris-Lyon-Marseille, will radiate from the last named city over Italy, the Orient and North Africa.

"The aerial station of Lyon (Bron), under construction, provided with wireless station, weather observatory, etc., will also serve as the initial station for the proposed line Lyon-Geneva-Lausanne."

The King's Cup Race

The King's Cup Race, the annual British air classic, held Aug. 12, last was won by Alan Cobham on a DH5O passenger plane equipped with a 240 hp. Siddeley Puma engine. Norman Macmillan, on a Fairey 3D float seaplane (450 hp. Napier Lion engine) secured second place, and Alan S. Butler, also on a DH5O, was third.

As in previous years, the race was a handicap event but this year it was open to seaplanes as well as to landplanes. Martlesham Heath was the starting point for landplanes, while seaplanes started from Felixtowe, the birthplace of the F5 flying boat. From these two points the course lay by way of Leith, Dumbarton and Falmouth to Lee-on-Solent, where both landplanes and seaplanes finished. The total length of the course was approximately 960 mi.

Cobham's flying time was 8 hr. 57 min., giving an average speed of 106 mi./hr. Macmillan averaged 109 mi./hr., and Butler 113 mi./hr.

Akron News

By Herbert Maxson

More than 50,000 Akron people witnessed the start of the aerial "Fox and Hound" contest from The Goodyear Tire & Rubber Co., athletic field on Labor Day afternoon, which was participated in by about 300 motorists and three 35,000 cu. ft. Goodyear spherical balloons piloted by Goodyear fliers and three officers of the United States Air Service.

The unusual race, the first of its kind held in Ohio and the second in America, was the major holiday activity in Akron, and the balloonists flying to sealed maps and unknown objectives established what is regarded as a world's record. Two of the bags were landed within a half mile of the destinations.

Maj. Norman W. Peek, A.S., and Carl K. Wollam, who with W. T. Van Orman piloted the balloon "Goodyear III" into first place in the 1924 National Elimination Race from San Antonio, Tex., this year, navigated the first bag to ascend in the "Fox and Hound" event. Having as their objective the small town of Lowellville, Ohio, the Army officer and the Goodyear pilot succeeded in pulling their rip panel just a half mile from the given point.

W. T. Van Orman, veteran Goodyear airman and Lieut. Clyde Kuntz, A.S., who handled the second "fox" in the recent race, came down on the Poland golf course near Youngstown, which was also but a half mile from the point selected before the basket was released by the ground crews in Akron.

Jack Boettner, of the Goodyear aero staff, and Lieut. Max F. Moyer, A.S., who directed the course of the third balloon, although handicapped by a late start were directly on the air route to their destination of East Fairfield, when darkness caused them to land for the sake of the pursuing motorists.

Ralph Upson and W. B. Stout, both of Detroit, served as referee and starter in the "Fox and Hound" program.

Prizes for the first three motorists to arrive at the landing places of the balloons were given by *The Akron Beacon Journal.*

* * *

The Commercial Aircraft Association, composed of pilots, plane owners and Akron men engaged in aeronautical work, will meet with those engaged in commercial aviation at the time of the International Air Races in Dayton in October, it has been announced.

The local group, of which the late Lieut. Harold A. Kullberg was president and an organizer, hopes to extend the scope of its efforts and is making plans for a national organization.

* * *

Maj. H. A. Strauss, of the lighter-than-air division, Dayton, and Capt. G. E. Kenney, of McCook Field "hopped" into Akron on a short business trip recently, flying a TA5.

Jack Yolton, of the Goodyear aero department, was one of the passengers on the ZR3 during its first trial flight. Yolton has been in Friedrichshafen for several months.

* * *

Harold F. Pitcarn of Philadelphia and James Ray of the Curtiss Exhibition Co. were in Akron for several hours on their aero tour of the United States.

New Orleans News

By Theodore R. Liuzza

A new seaplane was put into the air recently by the New Orleans Air Line, which took over the contract for carrying mail from New Orleans to Pilot Town from the Gulf Coast Air Line.

The ship took off at 2:30 to deliver mail to an outbound steamer at the mouth of the Mississippi river.

The New Orleans Air Line of which Arthur E. Cambas is general manager, has just completed a hangar at the mouth of the Industrial canal. There is space for storing the ships, and for making repairs.

The company's three ships are Curtiss Seagulls, fitted with 160 hp. C6 motors. All ships and motors are new stock.

A quick service for duck hunters is to be inaugurated shortly, according to Mr. Cambas. In an hour or two hunters will then be able to get from New Orleans to the "blinds," where as by any other method the greater part of two days would be consumed.

Photo T. R. Liuzza Service

Asst. Postmaster Fagan handing a sack of mail to pilot Otto Enderton, on the inaugural trip of the New Orleans—Pilot Town service run by the New Orleans Air Line

The first annual banquet of the New Orleans Model Aeroplane and Glider Club was held on Aug. 30, at one of the local restaurants. A large number of members attended. H. J. Robertson, aviator who saw service in France, was the principal speaker of the evening. His talk was enthusiastically received.

Several models, including Curtiss JN's, Sopwith and miniature DH's were on exhibition. All models were made by the members.

* * *

The New Orleans Model Aeroplane and Glider Club is making arrangements to hold its first model contests. All the members of the organization are busy constructing racing and scale models to enter in the various events. Business men of the city have promised their cooperation in the way of prizes.

* * *

Hundreds of passengers were carried in New Orleans during the past two months by the ships of the Gates Flying Circus. The fliers staged a circus here a short time back and so interested were Orleanians in flying that the pilots decided to stay over a few weeks in order to take care of the ever-growing crowds.

Of the many trips made by the ships, not one accident occurred.

Pioneer Instrument Publicity

The Pioneer Instrument Co. of Brooklyn, N. Y., have recently retained H. A. Bruno & Associates as advertising representatives.

Among the Pioneer products to be exploited all over the world are the earth inductor compass, the flight indicator and the aircraft hand pump. These instruments were used successfully by our Round the World fliers.

French Balloon Grand Prize

The Grand Prize of the Aero Club of France for free balloons, which was held for the first time in its history outside of Paris, in Lyon, was won by the French pilot Cormier, with a distance of 280 km. Veenstra, the Belgian pilot, was second with 265 km., and Demuyter, the three-time winner of the Gordon Bennett Balloon Cup, was third.

Canadian Air Licenses

The July 31 report of the R.C.A.F. branch of the Department of National Defense of Canada shows that the civil aviation certificates and licenses in force were as follows: Private air pilots 7, commercial air pilots 54, air engineers 226, registration of aircraft 35, airharbor licenses 23.

UNITED STATES AIR FORCES

U. S. ARMY AIR SERVICE

Distribution of A.S. Enlisted Men

The following distribution of the enlisted personnel of the Army Air Service, numbering 8,860, is of interest not only because it shows the number, type and location of the troops, but because it gives the stations of the squadrons and other Air Service units.

The key initials preceding the number of men, refer to the type of troops, as indicated by D- Divisional, C- Corps, A- Army, GHQ- G. H. Q., OH- Overhead, SSS- Special Service Schools, and FP- Foreign Possessions.

Bolling Field, Anacostia, D. C., 99th Observation Squadron (R. S.), D., 90; 56th Service Squadron, C., 172; 3rd Photo Section, D., 20; Headquarters Detachment, OH., 60; total, 342.

Brooks Field, San Antonio, Tex., Primary Flying School, SSS troops organized as 11th School Group, consisting of Headquarters, 11th School Group, 100; 46th School Squadron, 132; 47th School Squadron, 132; 62nd Service Squadron, 172; total, 536.

Chanute Field, Rantoul, Ill., 15th Observation Squadron (R. S.), D., 90; 5th Photo Section, D., 20; Technical School, SSS., 201; total, 311.

Crissy Field, San Francisco, Calif., D troops, 91st Observation Squadron, 132; 15th Photo Section, 20; 33rd Air Intelligence Section, 5; total, 157.

Fort Bliss, El Paso, Tex., D troops, 12th Observation Squadron (less Detachment at Fort Sam Houston, Tex.), 90; 1st Photo Section, 20; 32nd Air Intelligence Section, 5; total, 115.

Fort Bragg, Fayetteville, N. C., Detachment of 22nd Observation Squadron, D, 42.

Fort Leavenworth, Kans., General Service School Detachment, OH, 20.

Fort Sam Houston, San Antonio, Tex., 24th Photo Section, C, 20; Detachment from 12th Observation Squadron, D, 42; total, 62.

Kelly Field, San Antonio, Tex., Advanced Flying School, organized as 10th School Group, SSS troops, consisting of Headquarters, 10th School Group, 100; 40th School Squadron, 132; 41st School Squadron, 132; 42nd School Squadron, 132; 43rd School Squadron, 132; 68th Service Squadron, 172; 70th Service Squadron (Attached), 172; 22nd Photo Section, 20; 3rd Attack Group, A troops, consisting of Headquarters, 3rd Attack Group, 35; 8th Attack Squadron (R. S.), 90; 90th Attack Squadron (R. S.), 90; 60th Service Squadron (R. S.), 140; total, 1347.

Langley Field, Hampton, Va., 2nd Wing, GHQ troops, consisting of Headquarters, 2nd Wing, 20; 2nd Bombardment Group, consisting of Headquarters 2nd Bombardment Group 35; 11th Bombardment Squadron, 132; 20th Bombardment Squadron, 132; 49th Bombardment Squadron (at Phillips Field), —; 96th Bombardment Squadron, 132; 59th Service Squadron (less Det. at Phllips Field), 132; 2nd Photo Section, 30; Tactical School, SSS., 96; 50th Observation Squadron (R. S.), A., 90; 19th Airship Company, GHQ, 130; 58th Service Squadron (R. S.), C., 140; 20th Photo Section, C., 20; total, 1079.

Marshall Field, Fort Riley, Kans., D troops, 16th Observation Squadron (R. S.), 90; 9th Photo Section, 20; total, 110.

Maxwell Field, Montgomery, Ala., 22nd Observation Squadron (less Det. at Fort Bragg), D., 90; 4th Photo Section, D., 20; total, 110.

Mitchel Field, L. I., N. Y., 9th Observation Group, consisting of Headquarters, 9th Observation Group, A., 35; 1st Observation Squadron (R. S.) (attached), D., 90; 5th Observation Squadron (R. S.) (attached), D., 90; 61st Service Squadron, A., 172; 8th Photo Section (attached), D., 20; 14th Photo Section (attached), D., 20; 31st Air Intelligence Section (attached), D., 5; total, 432.

Phillips Field, Aberdeen, Md., GHQ troops, 49th Bombardment Squadron (Det. from 2nd Bomb. Grp. Langley Field), 132; Detachment of 59th Service Squadron (Det. from 2nd Bomb. Grp. Langley Field), 40; 18th Airship Co. (R. S.), 100; total, 272.

Post Field, Fort Sill, Okla., 44th Observation Squadron (R. S.), A., 90; 23rd Photo Section, C., 20; total, 110.

Scott Field, Belleville, Ill., Balloon and Airship School, organized as 21st Airship Group, SSS troops, consisting of Headquarters, 21st Airship Group, 18; 8th Airship Company, 130; 9th Airship Company, 130; 12th Airship Company, 130; 24th Airship Service Company, 100; 21st Photo Section, 20; total, 528.

Selfridge Field, Mount Clemens, Mich., 1st Pursuit Group, A troops, consisting of Headquarters, 1st Pursuit Group, 35; 17th Pursuit Squadron, 132; 27th Pursuit Squadron, 132; 94th Pursuit Squadron, 132; 95th Pursuit Squadron, 132; 57th Service Squadron, 172; total, 735.

Wilbur Wright Field, Fairfield, Ohio, 88th Observation Squadron (R. S.), D., 90; 7th Photo Section, D., 20; total, 110; Flying cadets, SSS., 194.

Hawaiian Department, 5th Composite Group, FP troops, consisting of Headquarters, 5th Group, 35; 4th Observation Squadron, 132; 6th Pursuit Squadron, 110; 19th Pursuit Squadron, 110; 23rd Bombardment Squadron, 129; 72nd Bombardment Squadron, 129; 65th Service Squadron, 200; 11th Photo Section, 20; 41st Air Intelligence Section, 5; Hawaiian Air Depot, 22; total, 892.

Panama Canal Department, 6th Composite Group, FP troops, consisting of Headquarters, 6th Group, 35; 7th Observation Squadron, 132; 24th Pursuit Squadron, 132; 25th Bombardment Squadron, 132; 63rd Service Squadron, 172; 12th Photo Section, 20; 40th Air Intelligence Section, 5; total, 628.

Philippine Department, 4th Composite Group, FP troops, consisting of Headquarters, 4th Group, 35; 2nd Observation Squadron, 132; 3rd Pursuit Squadron, 132; 28th Bombardment Squadron, 132; 66th Service Squadron, 172; 6th Photo Section, 20; 42nd Air Intelligence Section, 5; total, 628; total enlisted men, 8760.

Large Air Mapping Project

The photographic personnel of Kelly Field, San Antonio, Tex., are conducting the largest aerial photographic mapping project ever undertaken. The exposures are made by Captain Giffin and Lieutenant Lynch, and the developing and printing by the 22nd Photo Section. The entire project is under the supervision of Captain Giffin and is being done for the U. S. Geological Survey and the Water Board of the State of Texas.

The purpose of this project is to secure topographic maps of probable dam sites in the State of Texas. Following the completion of the maps, a study will be made to determine the proper location to construct dams to catch the flood water and store it to prevent the overflow of the lower stretches of streams during flood.

They Used a Parachute

Lieut. L. L. Koontz, attached to the office of the Chief of Air Service, and Pvt. W. E. Goggin of the 99th Squadron, while flying over Bolling Field, on Aug. 29, were compelled to use their parachutes when their Vought plane went into a nose dive, after having been brought out of a tail spin intentionally by Pilot Koontz. They both reached the ground safely.

Army Air Orders

First Lieut. Philip Schneeberger, A.S., Kelly Field, to San Francisco, sailing on transport Jan. 3 for Hawaii.

Spec. Order 196 amended to relieve Capt. Charles B. B. Bubb, A.S., and to direct him to proceed to Chanute Field.

Each of the following officers of A.S. Off. Res. Corps to active duty on dates specified, reporting to Com. A. S. Prim. Fly. Sch., Brooks Field for four months' instruction, at the expiration of which to return home and revert to inactive status: Sept. 11: Sec. Lieut. Elden Decatur Pollock, Seattle; Sept. 12: Sec. Lieuts. Sargent Chapman, Nevada City, Joseph Bernard Glancy, Allston, Mass., George Harvey Smith, Tucson, Willard Woodin Van Allen, Carthage, N. Y.; Sept. 13: Sec. Lieuts. Charles Mayhew Beatty, Memphis, Edward Lyndon Burke, Washington, Ga., Charles Stevenson Carter, Atlanta, John Munnerlyn Donalson, Blakely, Ga., Francis Toomer Hazeltine, Springfield, Mo., Harry Arthur George Hopmann, Ivorydale, Ohio, Wasson Watts Lawrence, Fairfield, Ill., William McPherson McIntosh, Elberton, Ga., Charles Brandon Short, Amarillo, Tex.; Sept. 14: Sec. Lieuts. John Franklin McIntyre, jr., Pine Bluff, George Jefferson Neighbors, Cleburne, Tex., Alan Vanhook Neilson, jr., Oberlin, La., Conger Poage, Waco.

Sec. Lieut. Walter Hoyt Kennett, A. S. Off. Res. Corps, West Newbury, Mass., to active duty Brooks Field, Sept. 15, for four months' instruction A. S. Prim. Fly. Sch., at the expiration of which to return home and revert to inactive status.

U. S. NAVAL AVIATION

ZR3 Makes 9 Hour Flight

The Zeppelin airship ZR3, built for the United States Navy as a reparations ship, on Sept. 6 made a 9 hr. trial flight over Southern Germany, covering approximately 475 mi. The ship rose from Friedrichshafen at 9:30 a. m. while a military band played "Deutschland uber Alles" and thousands of onlookers cheered and waved flags. Dr. Hugo Eckener, head of the Zeppelin company and one of its veteran pilots,was in command of the ship which carried 83 persons among crew and passengers. The Americans who took the trip were Comdr. Garland Fulton, Lieut. Comdr. Sydney M. Krauss, and Comdr. John H. Towers, U.S.N.,; and Majs. Frank M. Kennedy and Harold Geiger, U.S.A., Jack Yolton of the Goodrich Rubber Co., and several American newspaper correspondents were also aboard. Capt. George W. Steel, Jr., U.S.N., did not make the trip owing to a slight cold.

The course took the ship over Munich, Regensburg, Nuremberg and Stuttgart, and return was made to Friedrichshafen at 6:15 p. m. The average height of the flight was about 1000 ft., and the maximum altitude reached 3300 ft. The average speed was approximately 60 mi./hr.

Although the ZR3 ran into some bad weather on her trip, Dr. Eckener said that all the machinery and engines had worked very satisfactorily, especially the altitude and directional controls.

Despatches reaching the Navy Department indicate that the ZR3 will not leave Friedrichshafen until she has completed her 35 hr. flight which will not be before Sept. 30. The final trip depends "upon the date of delivery of the engines with all the latest modifications," the report states.

One hundred kilograms of special mail will be brought to the United States on the ZR3 at the request of the postal authorities of Germany. The mail will be delivered at Lakehurst, N. J., where special representatives of the Post Office will take charge of distribution in this country.

The ZR3 is insured for nearly $750,000 for its transatlantic flight by English, German, Dutch and Danish companies.

A complete service of weather information for the use of the ZR3 in her approaching transatlantic flight has been perfected by the Navy Department and will be put into operation when the airship points her nose westward and heads for her final destination at the Naval Air Station, Lakehurst, N. J.

The system of weather forecasting and communication which has been devised for the flight depends essentially upon three station ships to be placed in the North Atlantic. One of these ships will be located at 45°N. 45°W; the second ship will be located at 55°N., 45°W; and the third ship will be located at 44°N., 57°W. The latter vessel will act as a radio relay ship for the weather information which is accumulated by the two former vessels. The most northerly ship of the three will be required to make hourly observations of weather conditions and take upper air soundings by means of pilot balloons every six hours. Four times each day this information will be transmitted to the second ship in the train, which will combine the data obtained with observations made on board. The second of the three ships will be known as the Primary Observation Ship, and will accumulate all weather information from the continental United States and from the observation ships to the northward of her; she will also pick up weather reports from all vessels at sea within radio range and will transmit the digested information through the relay ships to coastal radio stations.

The vessels designated for this duty are the U.S.S. Patoka, Detroit and Milwaukee. The Patoka will be stationed south of Greenland, the Detroit south of her, and the Milwaukee south of Sable Island.

All activities in connection with weather forecasts and transmission of weather information for the ZR3 will be coordinated in the Navy Department at Washington, and the Naval Radio Station located at Annapolis will be used for communication with the ZR3 when the airship is within range of that station.

In connection with the arrival of the ZR3 in this country, emergency landing fields have been designated as follows:

The Boston Airport, Boston, Mass.
Mitchel Field, Long Island.
Langley Field, Hampton Roads, Va.
Paris Island, S. C.

These emergency landing fields will be prepared to receive the airship on short notice in the event that circumstances make undesirable the continuance of the voyage direct to Lakehurst, N. J.

The Department desires to emphasize the importance of uninterrupted communication with the ZR3 while in flight and bespeaks the cooperation of various radio organizations and individuals having radio equipment to the end that the least possible interference in these communications may exist. On the other hand, the Department asks for the heartiest cooperation of the radio public in the matter of listening in for messages transmitted by the ZR3, as such assistance may be extremely valuable in maintaining communication with the ship.

The inauguration of a system of weather reports to the airship in the course of its transatlantic passage might be considered as a forerunner of a service regularly maintained for commercial airships engaged in transatlantic commerce, and from this standpoint will probably be of intense importance to the radio public during the course of the flight.

Lakehurst Naval Air Station

Since the instructions directing the Shenandoah to visit Plattsburg were issued, it has developed that the airship is in urgent need of overhaul and repairs preparatory to its experimental flight to and from West Coast, October and November. It was therefore necessary to cancel orders to visit Plattsburg Sept. 11.

It is proposed to assign marines as ground crews at Naval Air Station, Lakehurst.

CALENDAR OF AERONAUTICAL EVENTS

April 6.	Start of World Flight of the U. S. Army Air Service, Seattle.
Oct. 2-4.	International Air Races, incl. Pulitzer Trophy Race, Dayton, Ohio.
Oct. 24-25.	Schneider Cup Race, Baltimore.
Dec. 17.	Twenty-first anniversary of the first successful airplane flight.
Dec. 5-21.	International Aircraft Exposition, Paris, France.

BACKFIRES

The remark made in this column some time ago that the platinum landing gear struts of a certain plane were being corroded by heavy dew has been taken by some readers with totally unwarranted levity. Witness the following provision of the Aeronautical Safety Code, Part III, Par. 315 (b):

"Except in the case of airplanes especially designed to withstand weather and moisture all airplanes in service should be protected, when idle, from the sun and from rain *and dew*."

* * * *

There was a time when Germany was the country where everybody prided himself upon the incredibly vast and accurate geographical knowledge that the public schools imparted to the Kaiser's subjects. Such strange places as Oodnadatta, Benguela, Kraguyevatz and In-Salah—which produced a blank stare on the face of the average American or Frenchman or Englishman—had no mysteries for the German. He knew beyond doubt where they were, and could point them out on a map without a moment's hesitation.

It was therefore with a considerable shock to our emotional system that we noticed in a recent issue of *Illustrierte Flug-Woche* that Maj. Don Pedro Zanni was referred to as "der portugiesische Weltflieger" under a photograph showing his Fokker seaplane with the inscription "Provincia de Buenos Aires." We fear that Don Pedro will not particularly relish Buenos Aires being transferred into Portugal.

* * * *

Novel case of the tail wagging the dog, as recorded by our esteemed contemporary, *The New York Times*, in an exclusive news dispatch from Friedrichshafen: "The airship (ZR3) carried her 72,000 cubic meters and eighty passengers with ease and smoothness."

No doubt, the cubic meters were securely tied to the ship.

* * * *

Kissing is an extra hazardous occupation, according to Dr. D. B. Armstrong, a prominent life insurance man. He classifies it with railroading, stone blasting, suspension bridge building, *ballooning*, assorting broken bottles and "other risky forms of endeavor."

Well, we are just beaming that Dr. Armstrong did not include flying in the list of "risky forms of endeavor." But what will our lighter-than-air friends say? Page R.H.U.

ONE WING LOW

Where to Fly

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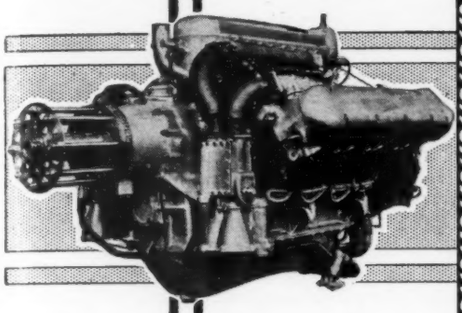

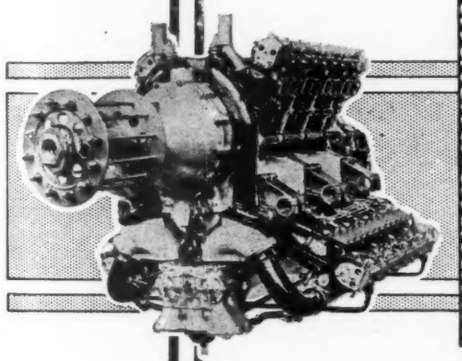

RECORDS!

Speed: A Napier engined Gloster aeroplane is the holder of the British speed record 212.2 m.p.h.

Climb: A Napier engined Gloster aeroplane attained a height of 19.-500 feet in the remarkable time of 11 mins. 34 secs.

Height: A Napier engined Fokker aeroplane achieved a World Record by climbing to a height of 21.276 ft. while carrying a load of 1102½ lbs.

For three years in succession the Aerial Derby has been won by a Gloster machine fitted with a 450 h.p. Napier engine:

1921 - 163.34 m.p.h.
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PUBLISHER'S NEWS LETTER

C. G. Grey, the brilliant editor of *The Aeroplane*, has accepted the invitation of AVIATION to come to this country and attend the Dayton Race Meet and the Schneider Cup Race in Baltimore. His interesting comments of both events as well as his impressions of American aeronautics will appear in AVIATION during his few weeks in this country. It will be a great privilege to have Mr. Grey join the staff of AVIATION and give his usual frank impressions. This will be Mr. Grey's first visit to this country and his many friends will wish to make his stay pleasant.

* * * *

Occasionally, there appears in every publication something that gives offense to a particular group. The *New York Herald-Tribune* reserves a special place for the correction of errors that are brought to its attention. Several weeks ago there appeared in AVIATION in the local correspondence columns one of those sarcastic pleasantries that are so often exchanged by nearby cities. In this instance, Cleveland patronized Akron, and Akron, quite properly, rises to protest. Akron, the home of lighter-than-air development in this country for so many years has done much to encourage the airplane as well and its desire to have an air mail field is shared by nearly every other city in the country without this boon.

* * * *

The intense interest in aviation in the smaller cities and the lethargy that is so apparent in the larger centers may be due to the policy of the N.A.A. this year. Admiral Fullam, who has been promoting the formation of chapters makes this policy clear when he writes "The Executive Committee wisely decided that a large number of small chapters in many widely distributed cities would result in greater good to the cause and to the Association than a few big chapters in the principal cities of the country.

"The smaller cities like Eldorado, Kan.; Saginaw, Mich.; Battle Creek, Mich. and Moundsville, W. Va., that have joined the fold are bringing a splendid contribution to the cause of commercial aeronautics. Is that not a fact? The writer has found that little cities are more receptive and in many respects more patriotic than big cities. This is natural perhaps. The smaller community is more easily stirred. It has a future to work out. It welcomes the visitor who presents a new and practical scheme of progress and prosperity. The big city on the other hand, considers that it has solved all problems. It is a finished product. It is perfectly pleased with itself. As a result we find that chapters in some small cities are a hundred fold bigger per capita than in the large cities. If the latter were as much interested as Eldorado and Saginaw they would each have thousands of members instead of a corporal's guard in some cases!"

Papers in Detroit, St. Louis, Boston, Chicago and other large cities that have taken a keen interest in aviation, but not in the N.A.A. please copy.

* * * *

The development of a strong local interest in aviation has its dangers as well as its advantages. If the enthusiasm takes the form of creating a landing field and encouraging pilots, aircraft constructors and field operators the result is highly commendable. But just as soon as local eyes sweep the aeronautical horizon a different problem arises. Every city, naturally wants to be an air terminal on the air route map of the country with air lines radiating in all directions. Then it desires the facilities of the air mail brought to its citizens. And then when local interest is great enough it proclaims its ambition to become one of the great airports of the world. All of which is most helpful and desirable from a local standpoint. Complications come when impartial aeronautical experts attempt to lay out the most practical routes from the flying point of view. The population to be served should control the location of air mail extension as well as the practicable flying distance between cities. Aerial progress must be considered as a national problem whether viewed from a legislative or operative viewpoint.

A Suggested National Air Policy

That a National Aviation Policy is needed by the United States is obvious. To get such a policy in concrete form AVIATION *requested several thoughtful friends of aeronautical progress to make suggestive and constructive recommendations. Some of them are given below and will be printed each week with additions, omissions and such other changes as appear to be helpful toward the formulation of a sound national air policy. Readers of* AVIATION *and others can render no greater service to the cause of aeronautical progress than contributing their comments and suggestions.*

GOVERNMENTAL.

A continuing program of aircraft development both governmental and commercial.
A civilian, charged with championing a national air policy, is needed in the Government. **Cabinet*
Aircraft committees in the House and Senate to hold aircraft hearings where civilians as well as government officials can express their opinions. **composed of fliers.*
A detailed aircraft budget for all Governmental Departments, and an annual statement of all expenditures.
An experienced staff of flying officers at the head of all governmental air defense services.
Coordination of all procurement and experimental aircraft work of the government under one agency.
**Co-ordination of the aircraft experimental development of the government leaving procurement to the various branches themselves.*
Limitation of government manufacture to repair of aircraft and specialized work that cannot be done by private firms. **No limitation on experimental construction.*
The elimination of the duplication of aerial functions and facilities by government departments.
A country wide Air Mail system of trunk lines connecting the principal cities of the country. **Retirement law for air mail pilots.*
Establishment of a National Airway System through cooperation of the Federal Government with States and Cities. **A landing field in every large city.*
A national aircraft law that will regulate aviation, administered by practical pilots and experienced aeronautical engineers. **and federal air police.*
Membership of the United States in the International Convention for Air Navigation.
**Increased governmental appropriations for aerial development.*
**Encouragement of aviation rather than subsidy.*

COMMERCIAL AIRCRAFT OPERATION.

Creation of commercial air lines by private enterprise or government subsidy.
Encouragement of participation by private companies in aircraft races and competitions.
Encouragement of the training of pilots by civilian schools.
Creating an Esprit de Corps among flying men all over the country by frequent gatherings at aviation meets.
**Encouragement of safe and sane flying.*
**A continuing organization, including representatives of all important points of view in aeronautics, for the discussion of standards for aeronautics where standardization is desirable.*

INDUSTRIAL AIRCRAFT CONSTRUCTION.

Recognition that a sound aeronautical industry is a prime necessity of our National Defense.
An active industrial association that will coordinate the aircraft industry and defend it from attack.
Encouragement of the designing of new types of aircraft by manufacturers by allowing them to retain their proprietory rights.
Concentration of manufacturing firms on specialized types of army and navy aircraft. **When production demands are heavy.*
Encouragement of research by constructors, universities and other agencies as well as by the government.
Encouragement of an annual design competition for commercial aircraft.

CIVILIAN.

A national aeronautical organization composed of public spirited citizens that will take a strong position of leadership on national aeronautical policy. **Unification of all aeronautical organizations into one national association with chapters in all cities and towns.*
An Annual Aviation Week during which the country will think of aerial progress. **52 such weeks.*
The formation of local aero clubs by fliers for the purpose of stimulating flying in all localities.
Encouraging the public to fly and patronize the air mail and transport facilities.
**The encouragement of gliding and soaring contests, especially interscholastic.*

*Suggested changes.

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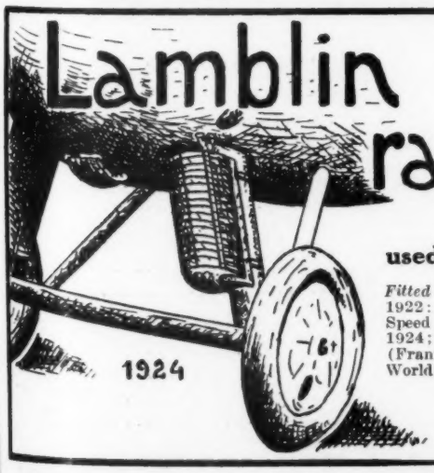

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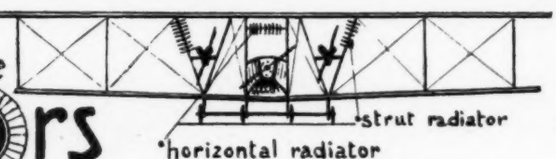

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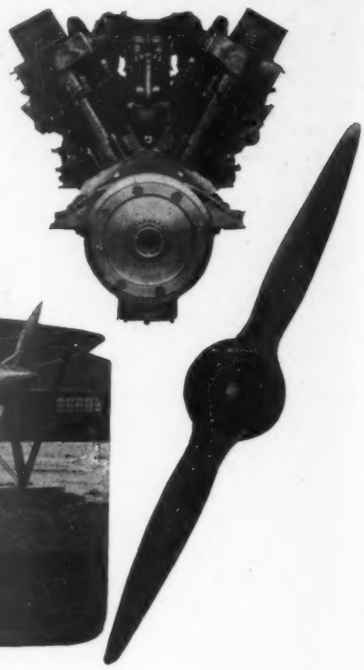
Curtiss

Speed with Safety



LIEUT. MAUGHAN SUCCEEDED WITH THIS COMBINATION

When the Army Air Service decided to demonstrate to the world the mobility of American aircraft, they chose a Curtiss product.

Lieutenant Maughan's recent flight from New York to San Francisco between the hours of dawn and dusk was accomplished in a Curtiss designed and built Pursuit plane equipped with a Curtiss D-12 motor and a Curtiss-Reed one-piece duralumin propeller.

This threefold combination is indeed hard to beat, as each one preeminently leads its field. The plane of Curtiss design includes all the essentials necessary for high speed racing and high performance military aircraft, among which are:

Extreme maneuverability with comfort and visibility to the pilot at all times;

Multispar cellular wings, with covering of spruce planking instead of fabric—shrapnel proof—no cloth covering to tear off;

Steel tubular fuselage with a readily detachable engine mounting;

Split axle type of landing chassis, in which shocks are absorbed by rubber discs acting in compression. This chassis, although but a few months old, has already been adopted as the standard type.

Quickly detachable wing or cellular radiators eliminating resistance heretofore required for cooling;

Oil temperature regulator, which permits instantaneous starting, even in the coldest weather, and then maintains the proper temperature of the oil while in flight.

The Curtiss D-12 motor, in addition to holding all the speed records of the world, now has to its credit Lieutenant Maughan's achievement. On account of the small frontal area of the D-12 for the first time the size of the pilot rather than the engine controls the size of the fuselage.

The Curtiss-Reed one-piece duralumin propeller, the safest and most efficient propeller ever tested, is unaffected by hail or rain, tall grass, small particles, age or climatic conditions. It too has done its part in winning these high speed and endurance tests.

The Curtiss Pursuit as a fighting unit has no competitor in the world. It has set new standards for plane, motor, and propeller.

On September 3rd Lieutenant R. C. Moffatt flew from Boston to New York in 58 minutes!

CURTISS AEROPLANE & MOTOR COMPANY, Inc.

GARDEN CITY, L. I. **BUFFALO, N. Y.**